USE OF MULTIMISSION FACILITIES TO REDUCE THE COST OF OPERATIONS ON LOW COST PLANETARY MISSIONS-- A MESUR PATHFINDER EXAMPLE

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JPI .'s Multimission Operations Systems Office (MOSO) provides a multimission facility at JPL for processing science instrument data from NASA's planetary missions. This facility, the Multi mission Image Processing System (MI I'S), is developed and maintained by MOSO to meet requirements that span the NASA family of planetary missions. Although the word "image" appears in the title, MIPS is used to process instrument data from a variety of science instruments. Facilities available to Discovery Principal investigators include high performance Unix workstations, a large capacity mass storage subsystem, electronic access to processing resources and data bases via standard network interfaces, film recording services, and photoprocessing services. individual Principal investigators arc required to fund only adaptation of existing MIPS multimission software to meet individual mission requirements, design and implementation of data catalogs as needed, mission specific costs for material and supplies, and staff costs for operational support and data product generation,

The use of this type of multimission facility to support low cost mission operations is now under active discussion with the Discovery principal investigator community. Most Discovery principal investigators wish to perform detailed science data analysis at their home facilities or institutions. Many principal investigators arc finding it cost effective to utilize a multimission facility with established equipment, software, and interfaces with the telemetry processing system to generate the first level data records for their instruments and to support other data processing requirements using inherited software or the shared usc of expensive equipment at JPL.

This paper will describe application of the MIPS to MESUR Pathfinder (a Discovery series mission that will place a Lander on the surface of Mars) as a specific example of the cost effective application of a multimission capability to reduce cost of operations on a low-cost planetary mission. MIPS will be used to generate first level data products, and the principal investigator on the MESUR I ander imaging investigation will perform detailed science analysis using facilities provided at the University of Arizona. MIPS will produce archival photoproducts and Planetary Data System compatible data records for MESUR pathfinder through use of multimission facilities. The cost effective division of effort between the science investigator and JPI .'s multi mission facility will be reviewed.

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